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A Brief Study of Female Healthcare Preparations Used by the Koch-Rajbanshi

Tribals of Barpeta District of Assam

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Rajbanshi tribe.

Key words: Assam, Barpeta, Ethnomedicine, Female Healthcare, Koch-

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Barpeta district of Assam is rich in phytodiversity and the rural folk of the district are efficient knowledge system, especially in connection with it. Barpeta district of Assam is rich in phytodiversity

Barpeta district of Assam is ric practitioner of their traditional knowledge systematic and with the use of practitioner of their traditional knowledge of Koch-Rajbano phytomedicines. The present paper deals with the district of Barpeta with special reference to the contract of their traditional knowledge of Koch-Rajbano. phytomedicines. The present paper deals with the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements in the district of Barpeta with special reference to Female tribal people living in small settlements. tribal people living in small settlements at the ones with smallest population in Barpeta. Out of the is healthcare. This tribal group is among the ones with smallest population in Barpeta. Out of the is healthcare. This tribal group is among the species belonging to 18 families documented here mostly are well known and used extensively in other tribes also.

Introduction

The seven sister states of North Eastern India are the store houses of one of the world's richest biodiversity. Thousands are plant species are still waiting for to be recognized and their ethnomedicinal usage explored. But before this we have to work upon a number of plant species which although are common but their medicinal uses are unknown. Our country with its rich cultural diversity has unexploited treasure of such medicines for thousands of years. At a time when the world faces a stagnation in the chemical medicines leave aside the harmful side effects, the ethnomedicines offer a safe method of repair, cure and strengthening of body with no or minimum side effects.

Assam, with its vast and endemic plant resources and its rich traditional ethno-botanical knowledge has huge potential and possibilities in the field of phytomedicine (Kalita & Phukan 2010). Some of these medicinal species have been extensively used in the ayurvedic, unani and other traditional alternative medicine systems since the time immemorial (Satyavati et al. 1987). Like all botanically rich regions of Assam, the district of Barpeta is also known for its substantial diversity of plant species. Barpeta district is located in between 26° 5' N to 26° 49' N latitude and 90° 39' E to 91° 17' E longitude and occupies an area of 3245 sq km.

Barpeta town, the district headquarter, is located about 90 km North-west of the state capital Guwahati. Barpera enjoys a sub-tropical climate with chilly winters and he and humid summers. The district is the gateway to Manuel National Park, one of the largest forest patches of Assam and one of the Tiger Reserves of India. The tribil inhabitants of the district include Koch-Rajbanshi, Rabba Boro, Tea-tribe, Santhal etc. Among these, the Koch Rajbanshis were made the subjects of study because of their small population and rich ethnobotanical knowledge

Many researchers, round the world have worked on the traditional knowledge of coing gynaecological disorders using phytomedicines. These include Lukhola & Siboe (2008), Bone et al. (1987), Khan & Khan (2003), Panduranga et al. (2011) d Sahu (2011) h North East India workers like Bar in kur (1976), Samu et al. (2001, 2002, 2006), E-ua et al. (1999). Bhattacharjya & Borah (2006), Das et al. (2007), Borah & Bhattacharjya (2009), Kar & Bhattacharjya (2008). Das et al. (2009), Bhattacharjya et al. (2008, 2012) Sarkar & Das (2010, 1011), and Lepcha & Das (2011) have made valuable contributions towards enriching ou knowledge regarding different diseases/ nilments and their treatment using different plant species in variety d formulations. However, studies on female healthcare connection with the treatment with phytomedicines

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Methodology

Extensive field tours were made to cover almost all the major areas for plant collection in the Barpeta district. As we know now that traditional knowledge of phytotherapy is largely confined to local healers or vaids, a pilot survey of the study area was conducted and a list of well-known vaids of Koch-Rajbanshi tribe, was prepared. Thereafter these informants were visited on regular basis for 2 months and interviewed to gather phytomedicinal information using a questionnaire prepared for this purpose. Specimens were collected and processed as per Jain & Rao (1977) and identified using Bentham & Hookers system of classification. All species were observed in natural habitat in various places of the district to confirm their habitat preference.

Result

The results of the study have been tabulated in form of Table 1. In all we could enlist and identify 25 plant species belonging to 18 families. The table shows scientific names of plant, local name of plant, family to which it belongs, part of plant used to make medicine, and dosage of medicine used by the Koch-Rajbanshi tribal people of Barpeta for female healthcare. Some of the plants used are common household plants while others are relatively unknown ones. In some cases identification was confusing so they have been left out of the result. The authors do not claim that the list is complete and that no plant or preparation has been left out in the tudy. Infact the precent paper is just an enlistmen of the information the could be gathered on few local healers. local leve after interaction

Discussio_

Mere are one or two In most villages of Barr elderly people male or fer- persons who are conversant with the traditional phytomedicines. It is interesting to note that this knowledge has passed through generation and has yet remained unaltered and undocumented. In most of the cases, the traditional knowledge is protected from outsiders and it takes great persuasion to make them share it. Perhaps, this is one of the reasons that we are fast losing on our traditional

medicinal knowledge. Newer generations find city jobs more lucrative and they hardly bother to learn this art while the elders hide it from outside world. In this manner our traditional knowledge is bound to die a slow

As already stated, the practicing medicine men or women are locally known as 'vaids' or 'kabiras'. This traditional phytotherapy is practiced mainly by persons of over 50 years of age. With their experience, they are capable of diagnosing and treating various diseases. These medicine men or women are great pharmacists also and know the exact concoction of any drug to be effective. They use different plant parts such as root, bark, stem, leaves, flowers, fruits etc to prepare phytomedicines for different diseases. They employ various techniques to make medicines out of these plant parts which include drying, crushing, boiling, soaking, mixing etc. The administration of the drug is also very different for different ailments. They may ask their patients to take their medicines with different supplements such as honey, cow's milk, goat's milk, sugar candy, fruit juice, warm water, cold water etc or may ask them to just swallow it. They give these phytomedicines in the different forms such as powder, paste, juice, oil, ash etc.

The local people have high trust in these traditional phytomedicines. They have been using these preparations since a long time even without knowing their effective constituents or their mode of action.

Women of rural area are very shy to share their gynecological problems even with their family members. In most cases they don't go to the doctor for their gynaecological problems such as irregular menses. In such conditions Vaids are like boons. They provide them with medicine without any fees and these medicines definitely have some effectiveness which gives them relief. It appears however, that these medicines are not fully active painst most of the diseases especially leucorrhoca because cases of recurrence are common. However, we could not record even a single case of side effect in any of fermulation which is a noteworthy finding. Perhaps this if not good releast not bad' attitude makes the people rely more an lasse medicines for longer periods of time.

The present study not only enlists the plants effectively used for female nealthcare in Koch-Rajbanshi

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ione female healthcare problems in Barpeta by Koch-Rajbanshis

Tabl		ants used for variou	Local Name	Plant Part used	Preparation/Dosage	Treatment of
S.N.	Name of Plant	Amaranthaceae	Matak tuka	Leaves		Sores
1,	Deeringia amaranthoides M	errill.	Bor	Leaves	Juice is given orally with sugar	Infertility
2.	Centella asiatica		manimuni Haru	Leaves	juice is given orally with sugar for 3 days	Mener-
3.	Hydrocotyle rotundifolia Roxb.	Apiaceae	manimuni	Leaves	15 ml juice is given orally for a	problems Uterine pain
	Eclipta alba (L.) Hassk.	Asteraceae	Keheraj		week Crushed branches to be taken	
	Caesalpinia crista	L. Caesalpiniaceae	Lataguti	Soft green branches	orally for 1 month	General topic
	Drymaria cordata Willd	Caryophyllaceae	Laijabori	Soft green parts	Juice is given orally with milk for 2 days.	Abortion
7. C	Coccinia indica W	& Cucurbitaceae	Belipoka	Root	Juice given for 4-5 days	Bleeding darage pregnancy
8. E	uphorbia hirta L	Euphorbiaceae	Dudh bon	Young branch	Crushed paste for 5-10 days	Lactation
	anihot esculenta	Euphorbiaceae	Simalu	Root	Eaten as nutritious food	Recovery after childbirth
10. Lei	ucas aspera Spren	g. Lamiaceae	Darun	Young branches	Juice given for 3-4 days	Cold during pregnancy
1. Oci	imum sanctum L.	Lamiaceae	Toloshi	Leaves	Eaten directly	Menstrual pain and general tone
2. Asp Wil	aragus racemosus ld.	Liliaceae	Satamul	Root	200 ml juice is mixed with sugar and given orally for 3 days.	
. Aloe	e vera (L) Burm.	Liliaceae	Kumari	Leaves	Leaf gel taken with honey for 5-days	6 Leucorrhoea
. Hibi:	scus rosa-sinensis	Malvaceae	Joba	Flower	20 ml juice is given orally for 3 days	Irregular Menstruation
Sida	cordifolia L.	Malvaceae	Saru-Borial	Root	paste taken for 3days empty stomach	Leucorrhoea
	benghalensis L.		Aha	Leaf bud	Paste applied on affected are	Skin infection
	velutina Wendle		Malbhog	Fruit	1 fruit with one earthworm he given orally for first 3 days of menstruation.	is Infertility
Musa I Colla.	balbisiana	Musaceae	Bhim kol	Fruit	Fruit is given orally with milk 3 days.	r Menstruation irregularities
Neluml Certn.	bo nucifera	Nymphaeaceae	Podom	Rhizome	Pea-sized dried part is given to daily for 1 week.	The state of the s
		Poaceae	Bah/Bans	Leaves	Dried leaf powder made into tablets given for 3-4 days	Excessive bleeding duri menses
ynodo	od a cylon L. I	'oaceae	Duburi-bon	Leaves	Crushed and taken with goat's milk for 3 days	

S.N.	Name of Plant	Family		Used by	the Koch-Rajbanshi Tribals of B	
22.	Houttuynia cordata Thumb	or of dictace	Local Name Masendary	Plant Pass	Preparation/Dosage	larpeta 3
23.	Scoparia dulcis L	Scrophularia			Juice or dried powder as	Treatment of Swalling of
24.	A Residence of the control of the co		Constitution Property	Wher		uterus
25.	Curcuma aromaticum Salisbury	STOCEBOOM	Ulat know		Juice is given orally for 3 days	Irregular menstrumon
bal	settlements of Barpe			Root	Eaten directly 15 rnl juice taken for 3days empty stomach	

tribal settlements of Barpeta district but also brings to light the reasons for their unending popularity. The study also calls for a careful phytochemical evaluation of the effective principle in these plants in order to prepare a better formulation. Besides this, there is also an urgent need for documentation of these plants, herbarium preparation and identification as well as their method of drug manufacture. In absence of this, we might very soon lose great knowledge that our past generations have given us.

References

- Barua, K.N.; Barua, I.C. & Das, M. 1999. Ethnobotany of Rajbonshis of Assam. J. Econ. Taxon. Bot. 23(2): 609 – 614.
- Beer, Josef de & Wyk, Ben-Erik van. 2011. Doing an Ethnobotanical Survey in the Life Sciences Classroom. The American Biology Teacher. 73 (2): 90–97.
- Bhattacharjya, D.K.; Sarma, S.K.; Borah, P.C. & Kar, A. 2008. Notes on select herbal treatments of the common people in Barpeta District, Assam. J. Adv. Pl. Sci. 4 (1&2): 69 – 73.
- Bhattacharjya, D.K. & Borah, P.C. 2006. Medicinal weeds of crop fields and role of women in rural health and hygiene: a case study in Nalbari district of Assam. *Indian J. Trad.* Knowl., 7(3): 501 – 504.
- Bhattacleriya, D.K.; Sarma, H.; Kar, A. & Patowary, K.N. 2012. Percs on herbal treatment practiced by the people of fringe veges of Manas National Park, India. Indian. J. Trad. Knowl. in pressj.
- Bora, P.C. & Bhattacharjya.
 Bora discases by tribal permanent of some female diseases by tribal permanent of Gobardhana block of Barpeta district of Assam. (Adia, Pleione, 3(2): 148 of Barpeta district of Assam.)
- Borthakur, S.K. 1976. Less known medicinal uses of plants

- among the tribes of Karbi Anglong (Miker Hills) Assam. Bull. Bot. Sterv. India, 18: 166-171.
- Borthakur, S.K.; Choudhury, B.T. & Gogos, R. 2004.
 Folklore hepato-protective herbal recipes from Assam in North East. Ethnobotany, 16: 76 – 82.
- Choudhury, N.; Mahanta, B. & Kalita, J. 2011. An ethnobotanical survey on medicinal plants used in reproductive health related disorders in Rangia subdivision. Kamrup district, Assam. Intn. J. Sci. Adv. Tech. 1(7): 154-159.
- Das, A.P.; Ghosh, C.; Sarkur, A. & Biswas, R. 2007. Ethnobotanical Studies in India with Notes on Terai-Duars and Hills of Darjiling and Sikkim. NBU J. Pt. Sci. 1:67 –83.
- Das, S.; Khan, M.L.; Rabha, L. & Bhattacharjya, D.K. 2009. Ethnomedicinal Plants of Manas National Park, Assam, Northeast India. Indian J. Trad. Knowl. 8 (4): 514-517.
- Hemadri, K. & Rao, S.S. 1983. Leucorrhoea and menorrhagia: tribal medicine. Ancient Sci. Life 3(1): 40-41.
- Jain, S.K. & Rao, R.R. 1977. A Handbook of Field and Herbarium Methods. Today & Tomorrow's Printers and Publishers, New Delhi.
- Kar, A. & Bhattacharjya, D.K. 2008. Healing herbs from some communities of Assam. J. Appl. Biosci. Biotech. 4 (1): 52–56.
- Kalita, D. & Phukan, B. 2010. Some Ethnomedicines used by the Tai Ahom of Dibrugarh district, Assam, India. Indian J. Nat. Prod. Resrc. 1(4): 507 – 511.
- Khan, A.V. & Khan, A.A. 2003. Herbal abortifacients used by folk people of some districts of western Uttar Pradesh. J. Nat. Remed. 3 (1): 41-44.
- Khan, L; Naser, M.; Elsalam, Abd; Hassan, F.; Akash, T.; Ullah, R. & Adnan, M. 2014.
- Application of Ethnobotanical Indices on the use of Traditional Medicines against common Diseases. Evidence-Traditional Medicines against common Diseases. Evidence-2014 Based Complementary and Alternative Medicine. 2014 (2014). Article ID 635371. 21 pages http://dx.doi.org/ 10.1155/2014/635371.
- 20. Lepcha, S.R. & Das, A.P. 2011. Ethno-medicobotanical

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- exploration along the international borders to Tibet Autonomous Region of China and the kingdom of Bhutan Autonomous Region of China and the kingdom of Bhutan with special reference to the Pangolakha Wildlife Sanctuary, with special reference to the Pangolakha Wildlife Sanctua
- Lukhoba, C.W. & Siboe, G.M. 2008. Use of Ethnobotanical Data in the Search for and Identification of Potential Drug Plants. E. C. Afr. J. Pharm. Sci.11: 43 – 48.
- Mesfin, K.; Tekle, G. & Tesfay, T. 2013. Ethnobotanical Study of Traditional Medicinal Plants Used by Indigenous People of Gemad District, Northern Ethiopia. J. Med. Pl. Stud. 1(4): 32 – 37.
- Panduranga, R.M.; Prasanthi, S. & Reddi, T.V.V. 2011.
 Medicinal plants in folk medicine for women's diseases in use by Konda Reddis. *Indian J. Trad. Knowl.* 10(3): 563-567.
- Raut, S.; Raut, S.; Sen, S.K.; Satpathy, S. & Pattnaik, D. 2012. An Ethnobotanical Survey of Medicinal Plants in Semiliguda of Koraput District, Odisha, India. Bot. Res. Intern. 5(4): 97 – 107.
- Sahu, P.K. 2011. Plants used by Gond and Baiga women in Ethnogynaecological disorders in Achanakmar Wildlife Sanstuary, Bilaspur, CG. J. Pharm. Life Sci. 2(2): 559 – 561.
- Sarkar, A. & Das, A.P. 2010. Ethnobotanical formulations for the treatment of Jaundice by the Mech tribe in Duars of

- West Bengal. Indian J. Trad. Knowl. 9(1): 134 -136.
- West Bengal

 27. Sarkar, A. & Das, A.P. 2011. Plants used in contact they
 by Mech tribe in Duars of West Bengal, India. In C. Ghol
 & A.P. Das, Recent Studies in Biodiversity and Traditional
 Knowledge in India. Sarat Book House, Kolkata. Pp. 311

 314.
- 28. Sarma, S.K.; Bhattacharjya, D.K. & Devi, B. 2001 Medicinal plants used by Bodo tribe of Nalbari district in Assam. Ethnobotany. 13: 135 – 139.
- 29. Sarma, S.K.; Bhattsacharjya, D.K. & Desi B. 2002.Traditional use of herbal medicines by Madel tribe of Nalbari district of Assam. Ethnobotany, 14, 103
- Sarma, S.K.; Devi, B. & Bhattacharjya, D.K. 2006. Ethnomedicinal uses of plants by the Sarania tribe of Nabal district of Assam. J. Econ. Taxon. Bot. 30: 133-139.
- Satyavati, G.V.; Gupta, A.K. & Tondon, N. 1987. Medicinal Plants of India. Indian Council of Medical Research, New Delhi. India.
- Sujuta, S. & Anusha, J.R. 2010. In vitro antibacterial activity on human pathogenic bacteria and larvicidal effect of neufrom Hemidesmus indicus (Linn) on Culex qinquifascura. Intn. J. Phytomed. 2: 418 – 424.
- Zeeshan, S.; Mishra, V.; Singh, S.; Arora, G.; Shrama, S. & Sharma, S. 2009. Current status of herbal drugs and fair future perspectives. *Biol. Forum.* 1(1): 12 17